Volume 220 November 1990

CONTENTS

Homogeneous turbulence in the presence of rotation. L. JACQUIN, O. LEUCHTER, C. CAMBON and J. MATHIEU *page* 1

On the stability of circular Couette flow with radial heating. MOHAMED ALI and P. D. WEIDMAN 53

Unsteady three-dimensional marginal separation, including breakdown. PETER W. DUCK 85

Reynolds stress and the physics of turbulent momentum transport. PETER S. BERNARD and ROBERT A. HANDLER 99

The hydrodynamic stability of boundary-layer flow over a class of anisotropic compliant walls. K. S. YEO 125

The effects of surfactants on drop deformation and breakup. H. A. STONE and L. G. LEAL 161

The phase diffusion and mean drift equations for convection at finite Rayleigh numbers in large containers. ALAN C. NEWELL, THIERRY PASSOT and MOHAMMAD SOULI 187

The effect of buoyancy on vortex shedding in the near wake behind a circular cylinder. KEUN-SHIK CHANG and JONG-YOUB SA 253

Dynamic compression and weak shock formation in an inert gas due to fast piston acceleration. MENG WANG and D. R. KASSOY 267

Instability waves in twin supersonic jets. PHILIP J. MORRIS 293

Inviscid–viscous interaction on triple-deck scales in a hypersonic flow with strong wall cooling. S. N. BROWN, H. K. CHENG and C. J. LEE 309

The compressible vortex pair. S. D. HEISTER, J. M. MCDONOUGH, A. R. KARAGOZIAN and D. W. JENKINS 339

Shear-layer pressure fluctuations and superdirective acoustic sources. D. G. CRIGHTON and P. HUERRE 355

Two-phase multicomponent filtration: instabilities, autowaves and retrograde phenomena. V. S. MITLIN 369

The structure of two-dimensional separation. LAURA P. PAULEY, PARVIZ MOIN and WILLIAM C. REYNOLDS 397

The Taylor–Saffman problem for a non-Newtonian liquid. S. D. R. WILSON 413

Material-element deformation in isotropic turbulence. S. S. GIRIMAJI and S. B. POPE 427

Unsteady flow past a rotating circular cylinder at Reynolds numbers 10^3 and 10^4. H. M. BADR, M. COUTANCEAU, S. C. R. DENNIS and C. MÉNARD 459

Turbulence modulation in homogeneous dilute particle-laden flows. R. N. Parthasarathy and G. M. Faeth 485

Turbulent dispersion of particles in self-generated homogeneous turbulence. R. N. Parthasarathy and G. M. Faeth 515

The entrainment of bubbles by drop impacts. Hugh C. Pumphrey and Paul A. Elmore 539

The evolution of a localized disturbance in a laminar boundary layer. Part 1. Weak disturbances. Kenneth S. Breuer and Joseph H. Haritonidis 569

The evolution of a localized disturbance in a laminar boundary layer. Part 2. Strong disturbances. Kenneth S. Breuer and Marten T. Landahl 595

Instabilities of flow in a collapsed tube. O. E. Jensen 623

The onset of three-dimensionality and time-dependence in Görtler vortices: neutrally stable wavy modes. Andrew P. Bassom and Sharon D. Seddougui 661

Absolute and convective instability of a liquid sheet. S. P. Lin, Z. W. Lian and B. J. Creighton 673

Reviews
shorter notices 690

Corrigendum 693

Index to Volume 220 694